

wherein n locking projections are formed at equal angular intervals on a bearing surface of the head,

the locking projections are separated from one another by planar portions of the bearing surface,

heights of the locking projections from the bearing surface increase gradually in a direction opposite a fastening direction in which the head is rotated for fastening to maximum heights,

c,
(concl)

there are edges at the maximum heights,

the heights of the locking projections decrease steeply from the edges in the direction opposite the fastening direction,

the maximum heights of the edges are equal to or less than P/n , and

a total area of the planar portions is larger than a total planar projected area of the locking projections.

Sub 18. (twice amended) A self-locking bolt having:

a head having a locking function; and

a threaded part extending from the head and provided with an external thread of a pitch P, the external thread being a machine screw;

wherein n locking recesses are formed at equal angular intervals in a bearing surface of the head, the locking recesses are separated from one another by planar portions of the bearing surface,

depths of the locking recesses from the bearing surface decrease gradually in a direction opposite a fastening direction in which the head is rotated for fastening to minimum depths,

there are edges at the joints of end walls of the locking recesses at positions of maximum depths from the bearing surface,

when the bearing surface compresses a member contacting the bearing surface, the edges function so that a portion of the member is forced to bulge into at least one of the locking recesses in a small protrusion, and

a total area of the planar portions is larger than a total planar projected area of the locking projections.

Sub 23. (amended) A self-locking bolt comprising:

a head having a bearing surface; and

a threaded part extending from the bearing surface and provided with a machine screw external thread of a pitch P for fastening to a first member when the head and threaded part are rotated in a fastening direction,

wherein there are n locking recesses at equal angular intervals about the bearing surface, spaced from one another by planar portions

wherein depths of the locking recesses from the bearing surface decrease gradually in a direction opposite the fastening direction from maximum depths to minimum depths with edges of the locking recesses at junctions of the bearing surface and end walls of the locking recesses at the maximum depths of the locking recesses for bulging into the locking recesses

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(cond1) protrusions of a second member that is between the bearing surface and the first member when the head and threaded part are rotated in the fastening direction, and

wherein a total area of the planar portions is larger than a total planar projected area of the locking projections.
